

Feedback Report

On

Criminal Justice and Data Analysis - 2

This course was offered from August to November 2020. A questionnaire was sent via electronic mail to all the users of Criminal Justice and Data Analysis after the completion of the course. The **total of 27 responses** received are grouped into Part A and Part B. **Part A** summarises all the responses of each multiple choice/rating question in graphical form and **Part B** consists of the responses of all open questions.

Part - A

Page nos.

Course Format	1 - 2
Course Administration	3 - 4
Learning From the Course	5 - 8
Course Outcome	9 - 10
About the various Modules	11 - 12

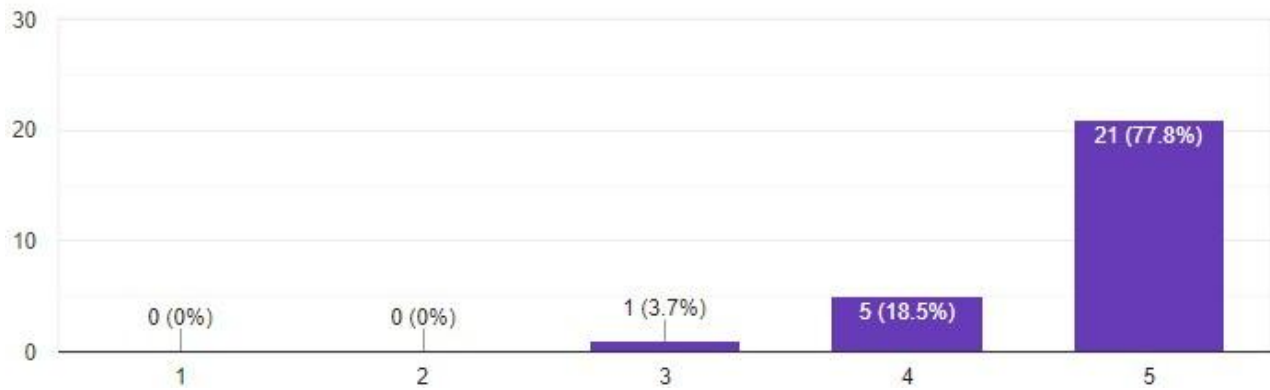
Part - B

Open Ended Questions	13 - 22
----------------------	---------

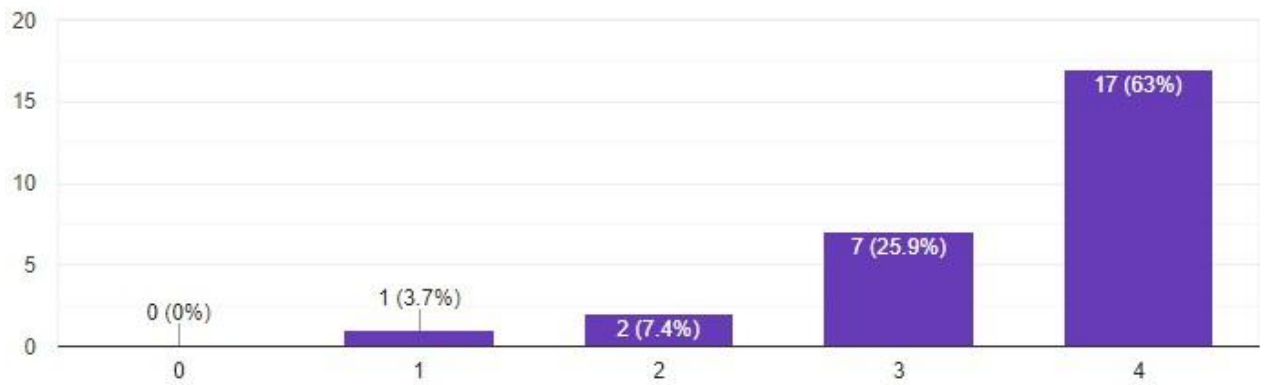
Part - A

Course Format

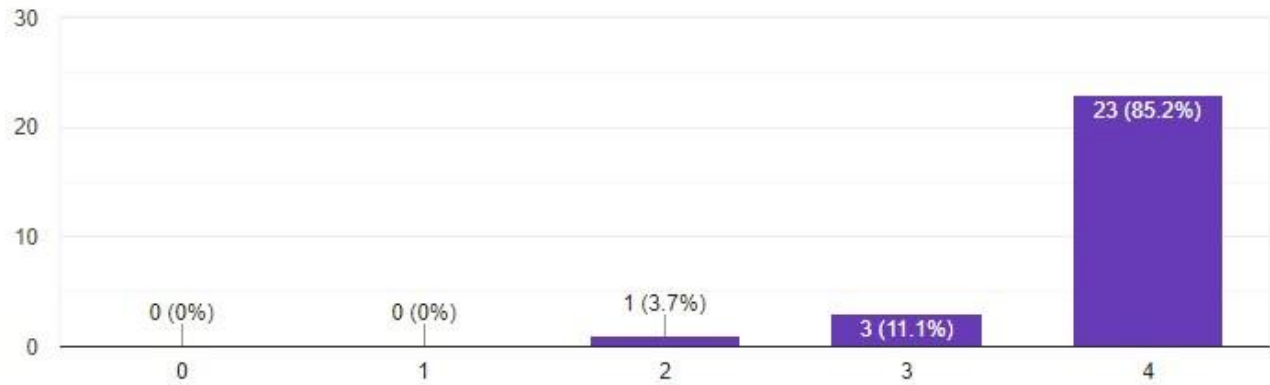
The course objectives were clear to me (27 responses)



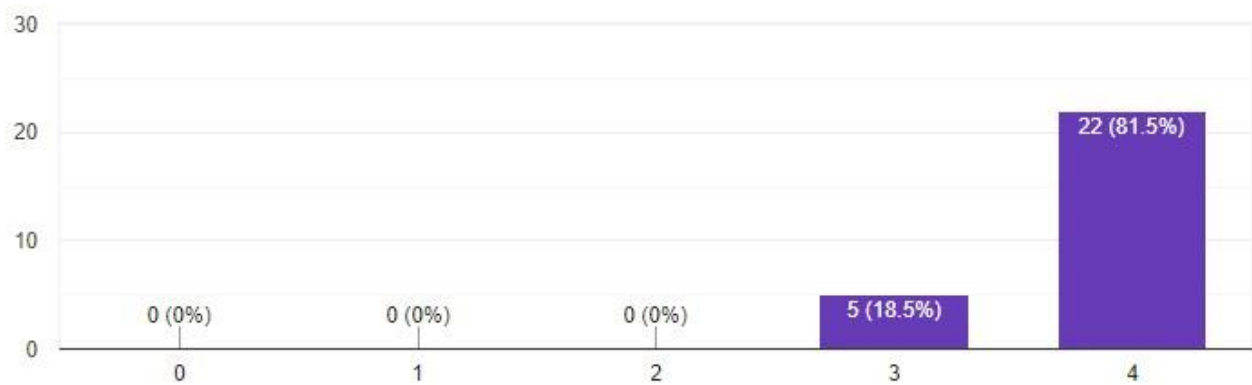
The course design was thoughtful and appropriate for a 12-week duration (27 responses)



The course stimulated my thinking about the topics it covered (27 responses)

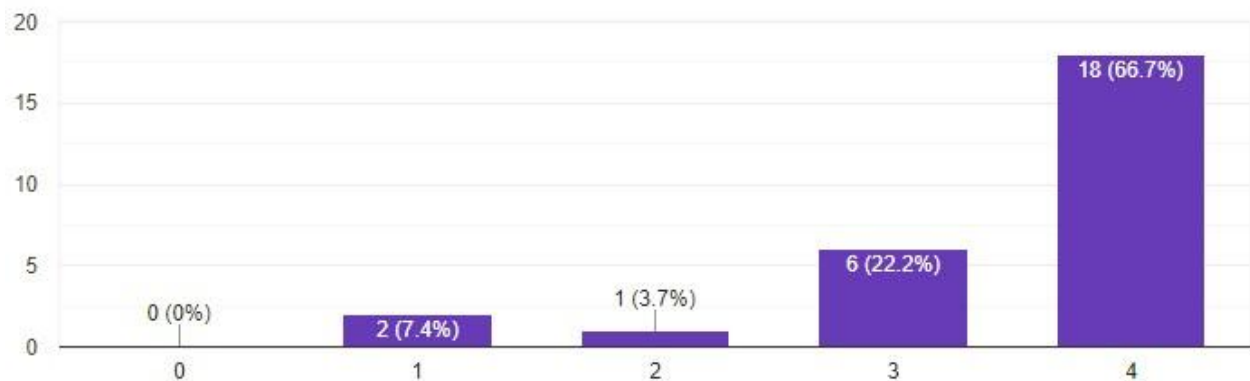


The system of assignments, quizzes, and exercises was helpful in learning (27 responses)

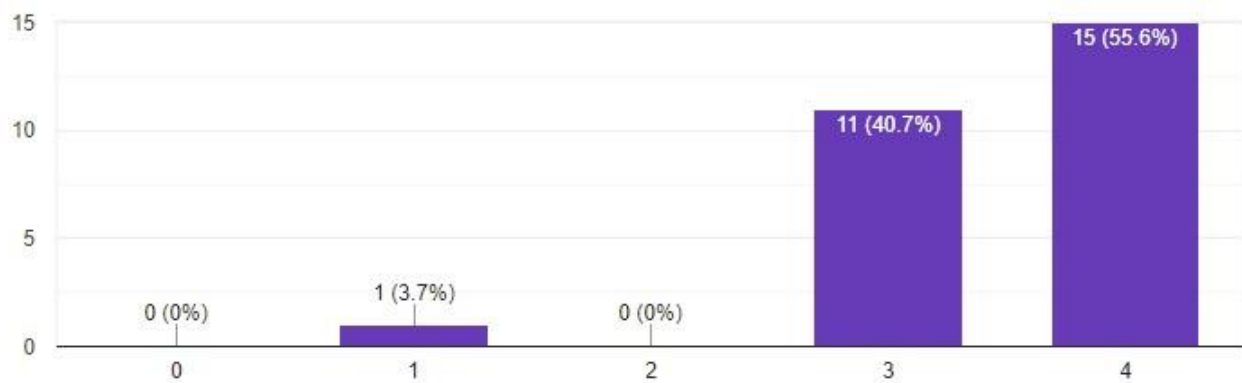


Course Administration

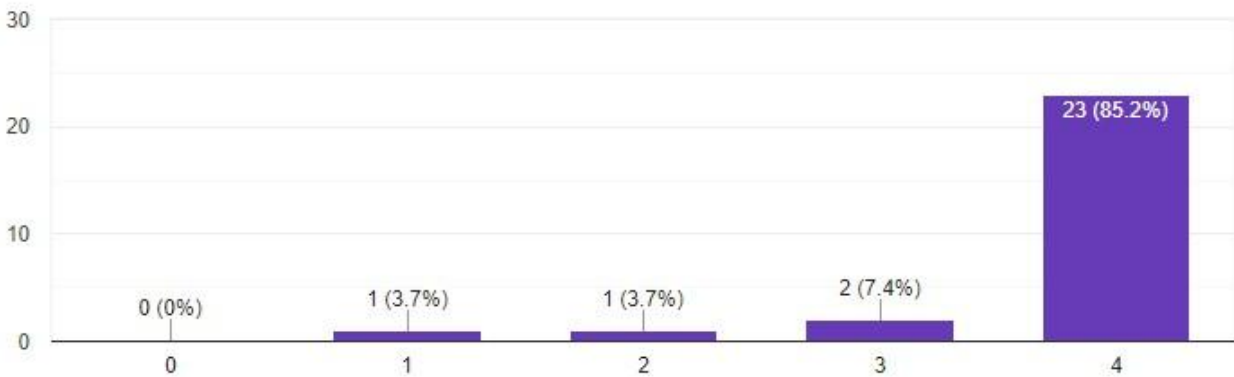
The online system was easy to navigate in learning and submitting assignments
(27 responses)



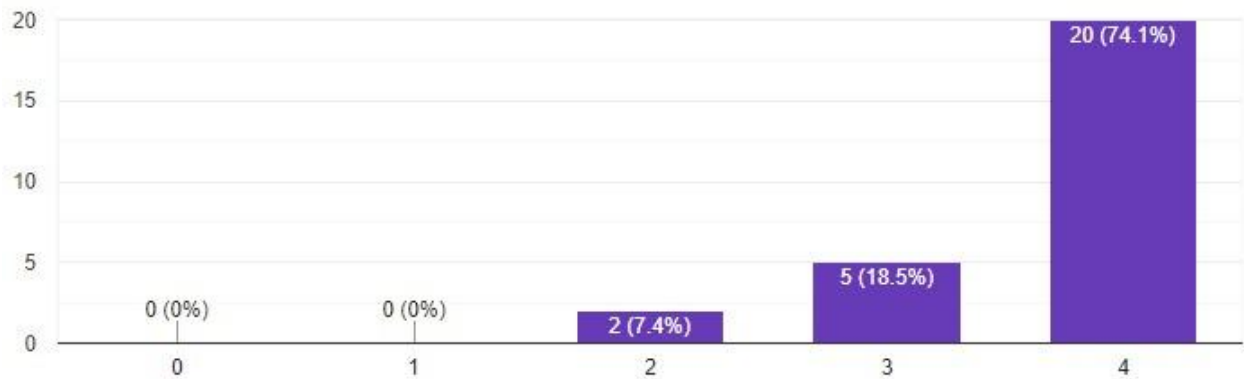
The active learning classroom format was very useful in learning from one another
(27 responses)



The course administrators were easily available when needed through email/ system tools and by phone (27 responses)

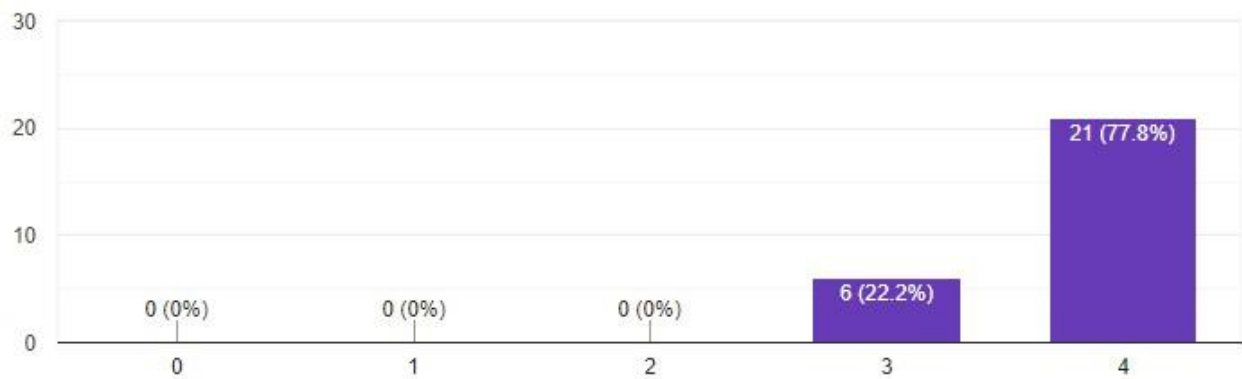


The class format was helpful in asking questions and understanding the contents (27 responses)

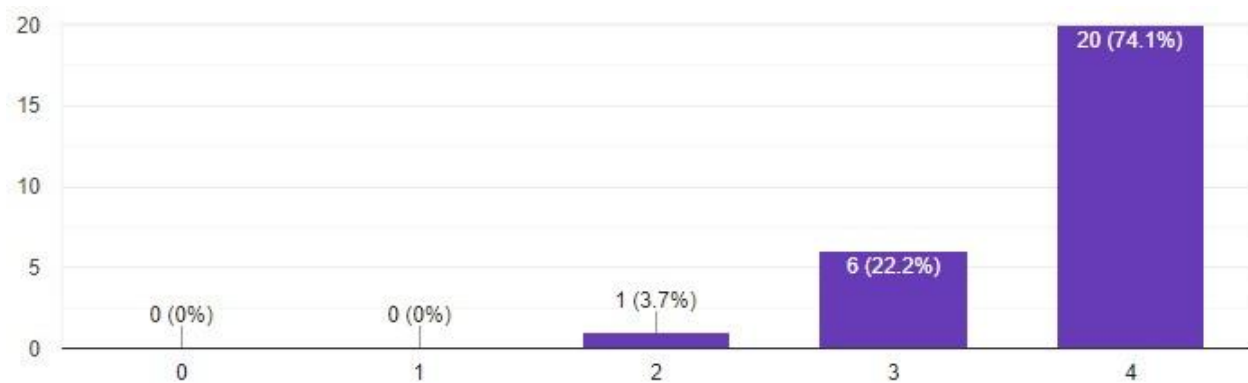


Learning From the Course

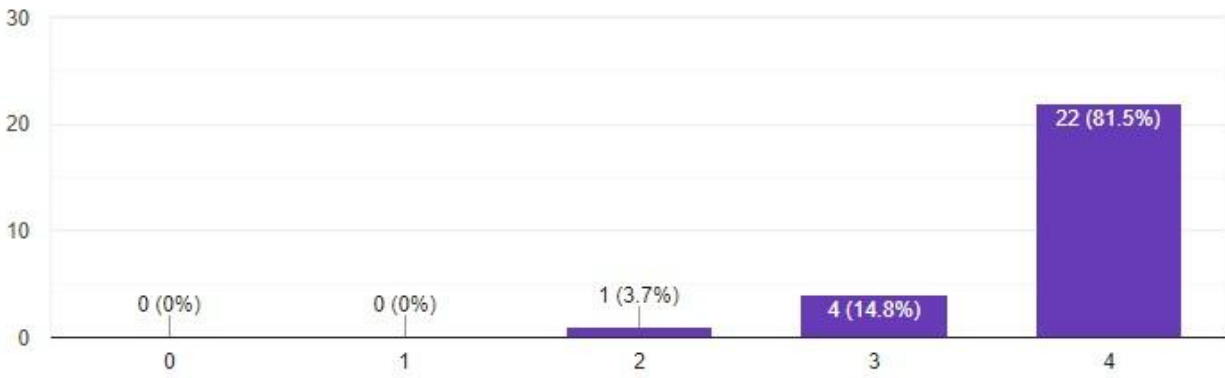
The readings and exercises were very useful in learning about criminal justice issues
(27 responses)



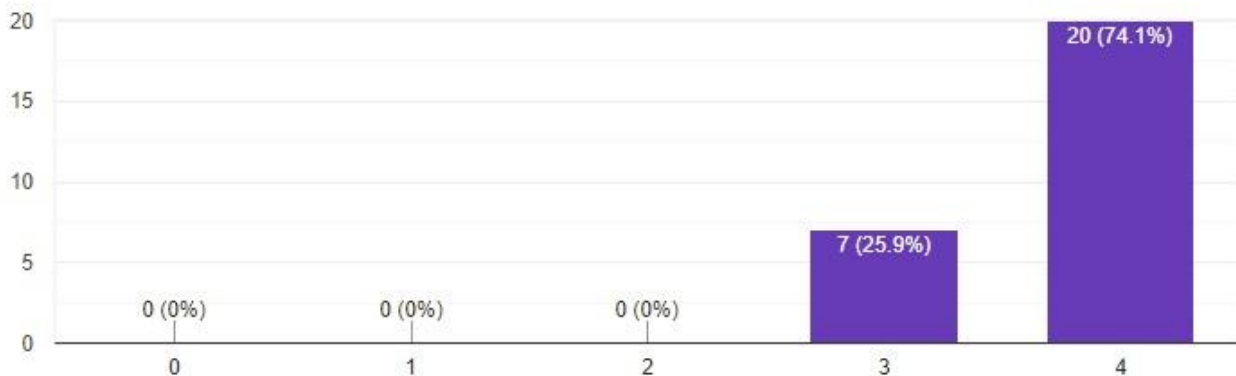
The readings helped introduce new ideas about policing and related issues
(27 responses)



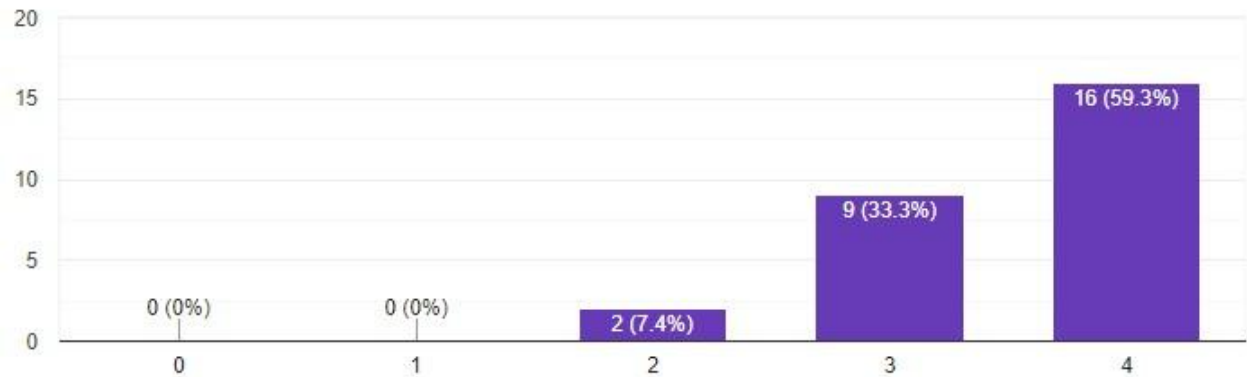
I appreciate efforts made by the instructors to think differently and broadly about Police/ CJUS/Data Issues (27 responses)



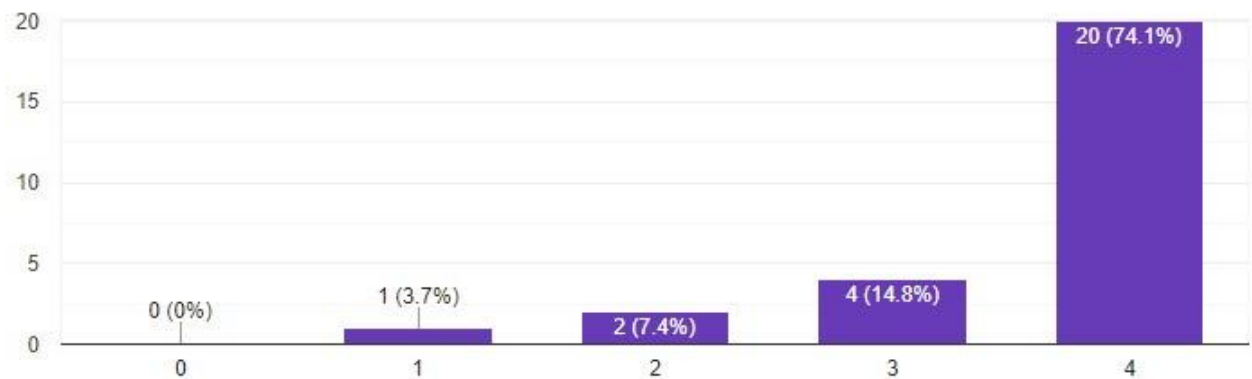
The feedback upon assignments and exercises was useful in understanding the contents of readings (27 responses)



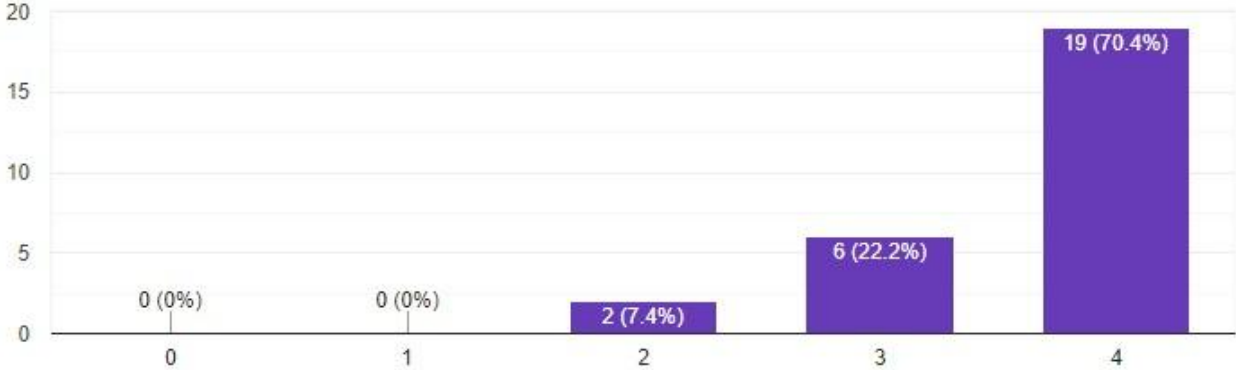
Discussions during class meetings helped in better understanding of policing issues
(27 responses)



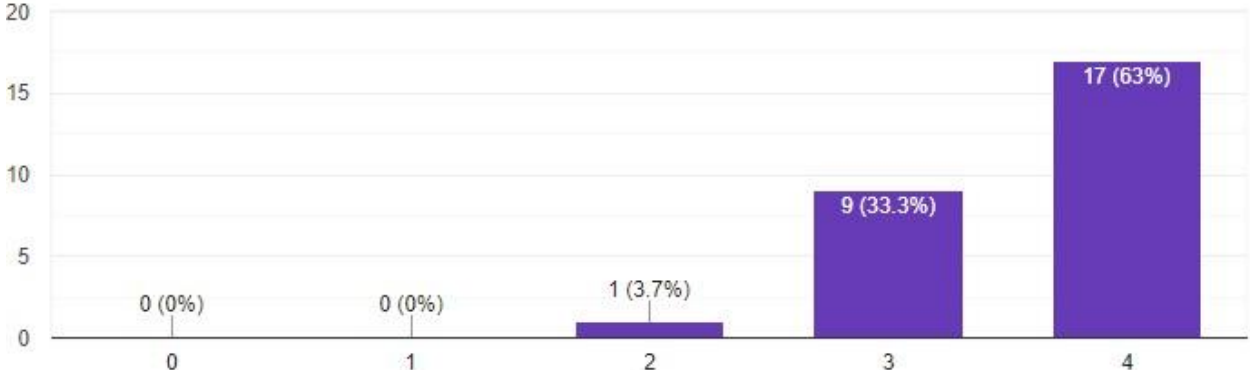
The guest lectures were very useful in learning about new topics ? (27 responses)



The instructors motivated me to do my best in the course (27 responses)

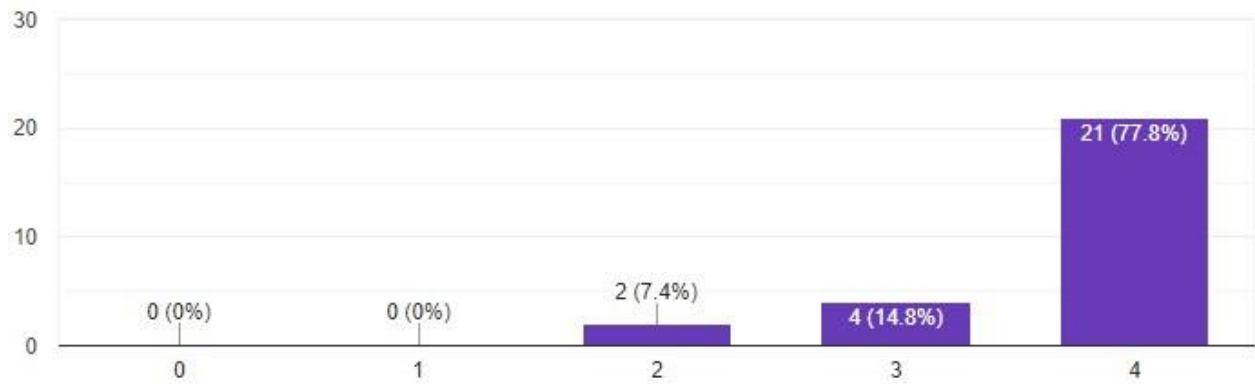


The project was helpful in applying course learning to my work (27 responses)

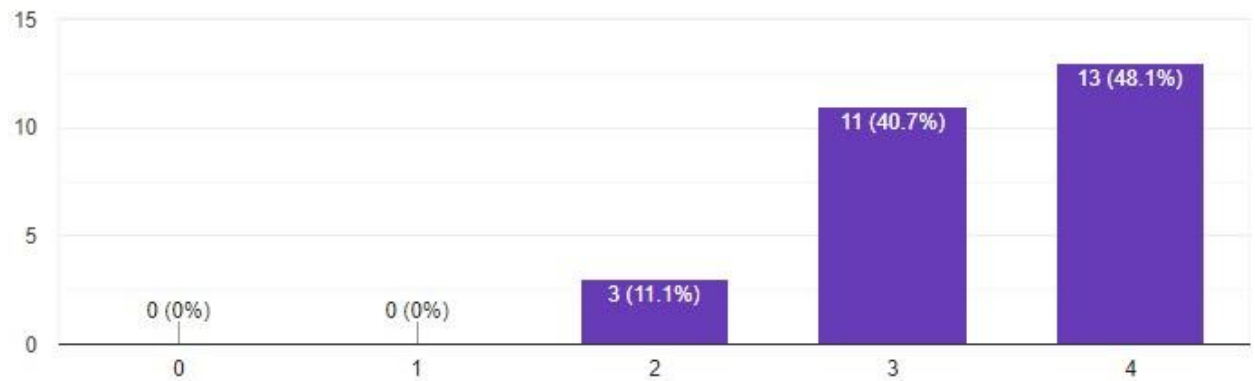


Course Outcome

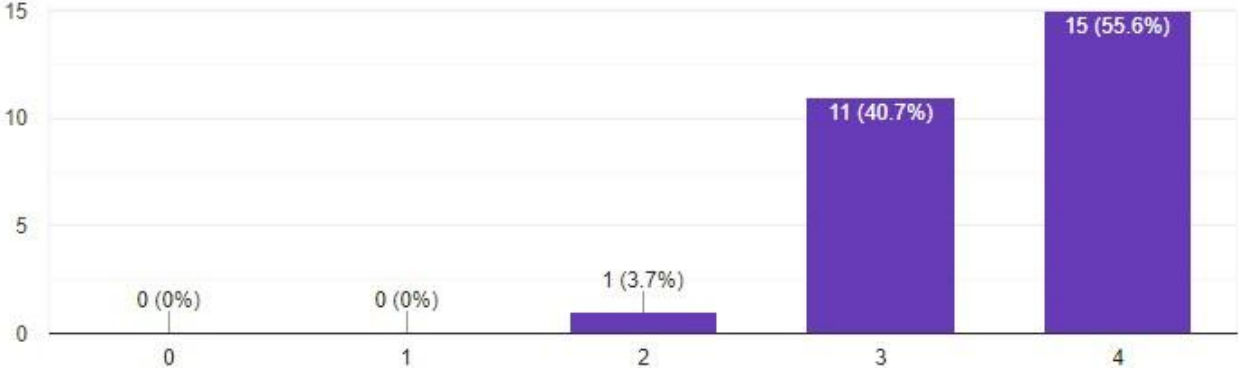
I learned a lot in this course (27 responses)



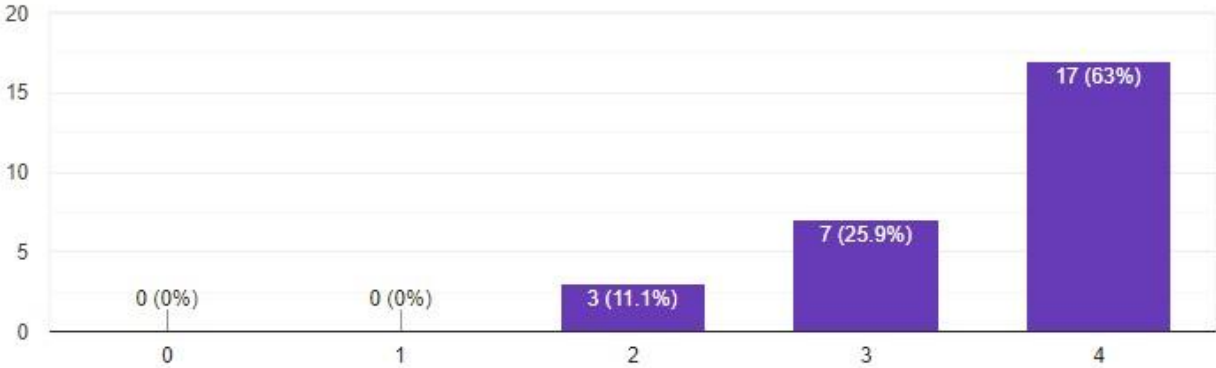
I developed the ability to apply data analytical techniques in criminal justice problems
27 responses



I believe the course has helped me in being creative about my work-related functions
(27 responses)



Informal class sessions helped me to develop good communication skills
(27 responses)

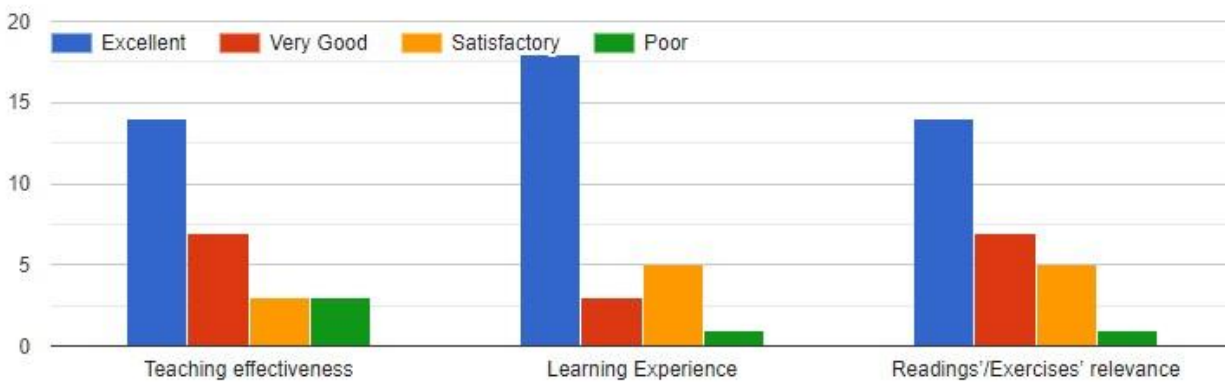


About the various Modules

Module 1



Module 2



Module 3



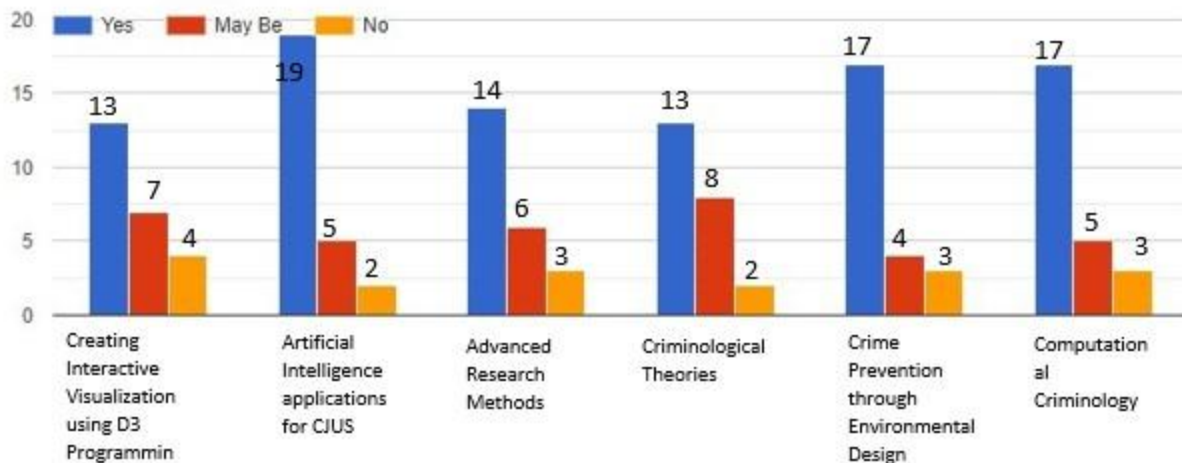
Module 4



Module 5



Would you be interested in taking the following 4-week [8 lectures] course modules that will require some programming/mathematics/qualitative methods?



Part - B

Open-Ended Questions

Q1. What did you like most about the course? Give reasons if possible. (25 responses)

- Excellent course, trainers team members and final project work. Interaction and motivation given by Prof Lodha and Prof Arvind Sir was tremendous and we were taught like school kids clearing our basic queries. All the participants interacted with each other freely without any bureaucratic inertia. Merging the concepts with field issues have us a very practical hands-on feel of the course which is otherwise missing in the training courses. It had a right mix of theory and implementation.
- The environment was friendly, and most of the instructors delivered in a lucid manner. Prof Lodha's lectures on Visualization module.
Interaction
- It dealt with so many subjects and it enabled to explore and learn the subject
- The course thrown insights into research in criminology and how to use analytical methods to derive at a conclusion about the crimes
- Intellectually stimulating.
- 1. Intro to many new topics especially ML, visualisation, criminology theories etc
- 2. Use of technology in criminal justice system analysis and applications
- Course co-ordination by Prof Verma. His way of delivering lectures and managing the entire course is fascinating. The lectures delivered by Prof Lodha were also excellent well structured and very useful
- This course is unique. It is first of kind in our country to strengthen criminal justice through effective data analysis . Feeling very fortunate being a part of this course. Thanks to IITK whole team especially Shri Arvind Verma, IPS (Our Guide) and all

resource persons for enlightening different aspects of criminal justice, new trends of research and data analysis techniques applying advance methods like network analysis, machine learning and visualization. Namaste to all.

- Quiz questions. As is has supplemented to the theoretical understanding more precisely.
- A good balance of theory and practical applications presented in a professional active learning methodology. Prof. Dr. Vermaji is not only an academician but a retired DG level Police officer. His brilliant analysis of Criminal justice systems, discussion papers on Etiology of Crime, Geography of Crime, Modern Policing were thought-provoking. He encouraged each and every participant - Senior Level officers (Director NCRB & Self - Jagan Vaman) and juniors to pursue research and data analysis as critical for presenting a powerful argument or a paper. In the Modules on Machine Learning, Prof. Lodhas visualization, we were introduced to scientific methods and concepts. Overall an excellent program - can be expanded to a 1-2 year advanced course to benefit the Police force & Industry.
- The availability of the lecturers and their guidance.
- Contents and duration
- Exposure to new topics, thoughts and techniques in data analysis and policing. Lots of exposure to ongoing work in both, which was very exciting.
- 1. The recommended readings were excellent and gave a good overview of each of the topics.
- 2. The assignments were thoughtfully designed which solidified our understanding of the topic and the relevance to the Indian context.
- 3. How the course is structured– gives an overview of the most important topics.
- Presentation
- Being a tech professional, the course has enlightened about the problems in policing and how best technology can help solve them
- actually everything
- The assignments and questionnaire / quizzes were very practical in nature and reflected the policing in India in the original/natural form. Secondly, the freedom to express during the presentations was really encouraging, as this course was free from regular academic ranking systems.
- Good Faculty
- Insights , experiences & knowledge shared , mentoring , very effective and attentive interactions with esp Prof Arvind Verma and all others , including visiting faculty , it was really an opportunity to get into this course and be with all elite Police officials , be together very supportive and in the learning process .
- The Outcomes of the courses will impact the career.

2. What did you like least about the course? Give reasons if possible (23 responses)

- There are many documents to read, analyze and write up for the exams.

- Machine Learning module rushed through very quickly so was very difficult to grasp whereas GIS RStudio module went at a very very good pace.
- In a short duration course and where individuals from various areas join the course, the thrust should not be on purely theoretical framework, but it should be supplemented with real examples. For example, at least one question similar to asked in the ML/AI assignments should have been solved/explained by the instructor.
- Network analysis
- Assignments on time; busy sir...
- Very short time for a vast number of topics
- Should have focused more on the learning requirements of higher-trajectory learners.
- 1. In the ML module technical jargon and emphasis on programming may be reduced especially for those who are new to python.
- 2. The pace of the course could be slowed down a bit.
- Did not enjoy the lecture session of ML module. It should have been much easier and example oriented
- The course is well designed and I have learnt attentively from all sessions . Arvind Verma sir always guide and supervise our progress during the course tenure . Really he is a top cop as well as a top intellectual.
- Use of Machine Language. Those who are out of programming for quite some time and the mathematical functions used also needed more time to understand. The duration of ML was too short. Assignment section for this part was not good to put the learning to use correctly. During this module we did not get a friendly environment to clear our doubts and receive the needed support. Grades were also poor for this part of the course for most of the participants. Which shows lack of understanding by the entire group.
- Use of R and R-studio also was interesting but due to lack time and technical glitches this module also was poorly understood and could not be put to use in the project. Time frame for these two topics should be more at least 3-4 weeks each. No need for guest lectures which are not relevant to the course objective. It had used up our valuable time which could be used for completing our assignments in time. Throughout the course we were only attending classes without any relief from our day to day office work. So it was not a enjoyable experience to do double shift.
- I loved this course!
- Irregular classes. Guest lectures should be kept on particular day of a week
- Less of time given to some new concepts, especially in machine learning. More time devoted to explaining the basics would help achieve better understanding.
- If there is one thing, I would change the timing of the course but understand the time constrains of the police officers
- The platform could be much better
- more emphasis on concepts in ML
- The take off level was , maybe a bit too high for me personally to catch, as my daily routine of counter insurgency operations did not involve these techniques as a day to

day practice. It would have been better if some of the minimal techniques / programming knowledge was sent to the registered students , prior to the starting of the course.

- We should have more simpler practice sessions , references (from start to build foundations , as some of us were taking subject for first time or after long time or there were missing appropriate use cases) and applied exercises ,over Machine Learning , Network Analysis and Qualitative research . There was time constraints over data visualization and Machine learning

3. What other topics would you like to be included in such a course? (23 responses)

- More project works timings.
- Statistical analysis of data, mathematical modelling of data, Social Media analysis clubbed with Network Analysis module
- can not say right now
- Predictive analytics
- Block chain tech in crimi
- I think it is self contained
- Not other topics. It can be extended so that whatever topics are there can be learnt little more comprehensively.
- More of Module 2 (ML) content
- Cyber crimes - ways and techniques to tackle
- It should also include some real life AI case studies in Policing from advanced countries like USA, UK etc.
- All relevant topics have already been covered in this course. Very well designed .
- Topics of visualization was very useful and interesting.
- Study material was too much and to compete with existing work and timelines it became difficult. If you would have given sample exercise before asking the students to do the assignment it would have been easier to attempt them with higher accuracy and perfection.
- My suggestions -
- 1. Cyber Crime focus / Cyber Crime methods, motivations and prevention can be a new module - that includes TTPs - Tactics, Techniques and Practices of Cyber Criminals, advanced threat management, CERT, Malware analysis, Cyber Forensics and Offensive and Defensive Security, SOC operations, Dark Web analytics
- 2. Criminal Laws/ Cyber Laws, Privacy laws can be a mini module
- 3. More expert lectures can be added to bring the practical flavor, current affairs and new dimension technologies in Crime fighting, Cyber etc

- More time to be allotted to Machine learning please.
- For a 12 week course the contents are complete
- More on how the different mathematical models and tools have been used in applied research for data analysis.
- Research methods, emerging areas of research in police
- More topics in machine learning
- Focus on certain core aspects like Cyber Crime Investigations as separate modules or sub-modules
- basics of python
- Capital punishment, Community corrections, Criminal Justice ethics , Feminist criminology , Cyber crime & prevention techniques
- Software Engineering
- Optional Advanced ML , AI , Network analysis and Criminal investigation in Digital Crime - includes Cloud /Mobile /In premise - Data at rest , transit and use . Criminal Justice should be brought with focus from motivation /psychology of criminal and Path to reform , to remain long term solution and in involvement of people / society . Also Information management and life cycle management + Digital Forensics is important to be kept optional.

4. What guest lecture topics you would like to include in such a course? (21 responses)

- This is more than enough. All guest lectures were excellent.
- A module on Mathematical and statistical analysis of data may be included in the course. Statistical analysis is one domain in which most police officers lack and thus they are either often wrong in their predictions or jump too early on conclusions. Scientific statistical analysis if clubbed with GIS Visualisation will have a great impact and fulfil the objective of the course.
- AI/ML techniques
- Whatever currently is their is OKf
- More on machine learning and how it is used in real field to come up with conclusions or predictions about the crime and crime pattern
- Any subject that showcases a project validated by time and it's users (as contrasted to self-validation.)
- Technology adoption in policing at big centres like London, New York, Chicago etc
- Data analytics and AI in solving Cybercrime cases
- All guest lectures are topic oriented . Excellent sessions through subject domain experts.
- I do not recommend guest lecture for the course. It is not adding value to the course. It is just a filler which is being used for some reasons not known. Rather i would like to recommend the experience from previous batches on the said course and guide the new batch how to go about learning different techniques of data analysis, Collection of Geo spatial data was a challenge which could not be met by most of the participants.
- More about application of AI etc. in real time policing.

- More case studies and research work in the same topic as in the module in each week which can add to better understanding and act as an additional reading material ironing in the topic in ones mind.
- Data Mining, Data Monitoring,Recording and Archiving.
- Topics related to investigation of crimes, Composition, working and management of a police thana, Speakers from various levels of the police hierarchy and their functions (SHO, Insepctor, Sub-inspector, Constable, etc and not limited to the top level management), State-wide variation of police culture in India
- Crime against women
- National Security / Border Security issues and challenges, Police Skilling in adopting latest technologies
- cyber related solution for protecting country and citizens
- Criminal Justice Ethics, Mass Media crimes, Forensic science, Prison Systems , Sentencing, Offender Classification
- Case Studies based guest lectures

5. Will you recommend this course to others? (24 responses)

- Yes. I will definitely recommend. It gives good insights on Visualisation and analysis
- For sure Yes
- Yes definitely
- Strongly recommended
- Yes absolutely. I am planning to publish my Certification and add a review in my LinkedIn
- Surely yes
- Yes 100%.
- Definitely
- Yes , definitely, to all those who has some inclination towards Policing and Justice systems.
- absolutely yes and would like to remain involved , through future engagements and learning opportunities

6. How likely is it that you will take another such course? (25 responses)

- Very likely
- Surely will take another course on mathematics and statistical analysis
- I may take such course in future.
- More likely
- For sure yes
- Most likely
- Very likely. If I get a course that is a logical successor.
- Definitely
- I will be delighted to such courses under the guidance of Prof Verma

- I will take and enroll in all upcoming courses by IITK relating to policing research and capacity building.
- Not likely
- 100%
- Cent percent
- Highly likely, especially if organised by Professor Arvind Verma.
- Very likely
- Definitely
- Very much
- absolutely yes and would like to remain involved , through future engagements and learning opportunities

7. How likely are you to utilize these techniques learned in this module 5 years from now? (24 responses)

- visualization, presentation and project work would definitely help.
- I've already start d using RStudio and Gephi and will definitely use it in future too
- I have started utilizing some of techniques.
- Very much useful in day to day policing
- Statics and dat use
- I will be using for life time -especially the research methodologies which I have learnt
- Definitely I'll try methods learnt in this course in my work
- Absolutely certain.
- After 5 years, technology may be changed but basic thoughts and techniques learned from this module should definitely be helpful in handling new technologies in combating crimes
- I will try to implement this module in my profession by aid of senior authorities . And I will implement all learnings in my research (writings /publication/presentation)
- I have no idea as of now.
- I am a cyber security professional and an IT expert with two published books. One is ERP in Practice - a technology management book published by McGraw-Hill and Cyber Armageddon - a cyber war fiction.
- I am utilizing a number of techniques already in my projects and will do more with the learning contents from this course.
- Already using it
- Have started applying.Very likely to continue
- Very likely, it is already helping me at work.
- haven't thought about it
- Very likely to share the knowledge gained with my colleagues and department, and will try to implement the same within my system in the Defence Services .
- I am already using most of them

- would like to revisit again and request if links remain open for at least three months - esp on ML , would like to enhance on Optional Advanced MI , AI , Network analysis and Criminal investigation in Digital Crime - includes Cloud /Mobile /In premise - Data at rest , transit and use . , motivation /psychology of criminal and opportunities for Path to reform , to remain long term solution and involvement of people / society .Information management and life cycle management . Digital Forensics

8. Any other suggestions/ comments? (22 responses)

- Some Lesser reading assignments and assessments.
- Please keep us posted by email on future courses too so that we can enroll online.
- Please schedule future courses on Sat/Sun only .
- Excellent course-it is a turning point in my life
- Though short and hectic course, it has kindled interests to experiment on the reasearch methods and analytical tools for better understanding of crime and its patterns and also criminals behaviour. Hoping to use these methods in future to learn about the crime analysis and also deploy in the field so that there is an impact because of that study or experiment or analysis.
- Grateful to all who worked to make this possible. Thanks.
- 1. More spacing should be there in subsequent modules so that full understanding of the just finished module may be ingrained and also finishing the assignments
- 2. Option of response on the feedback provided in assignments section
- 3. In classes the questions may be moderated so as not to digress from the subject
- There should be a physical/virtual re-union of this batch in future
- IITK brought unique opportunity for me where I have interacted with top cops , experts, intellectuals in a single platform and learn from everyone . Feeling very motivated. Thanks . Namaste
- Sample Data should collected and provided before assignment is asked to be submitted. Data collection on any of the topics selected has consumed too much time and to analyze it properly is also a challenge due to data integrity issues.
- Course may please be planned a separate 6 weeks course on Machine learning and R studio
- Please continue this great course. Expand it to an advanced PG level program. Post-Covid 19 pandemic- the universe of educations has changed. Everything is online now. IITK can offer an advanced PG level program.
- Wonderful coordination by Prof Arvind. Extremely wonderful teachers and guest speakers. Guest speakers topics should be from the course. Once in a while other criminal justice topics can be added as part of adding knowledge but that should be one or two in the 12 week course.
- The course provided three months of fresh ideas, perspectives,challenges and learning. Looking forward to more.

- Keep up the good work! Thank you so much for the opportunity to interact with such brilliant minds. A special thanks to Prof Arvind Verma for his enthusiasm and passion for encouraging research on policing in India. A much needed initiative.
- Great Initiative and I wondered why it took so long to come up with such a course in criminal justice and I would personally take up responsibility to contribute to this for sure in a long term with support from the professors in the course
- all resources including ML and data to be retained for learning and projects
- Since the take off level was very much as expected and in line with the IIT standards, which is the best available to all those who missed selections at IITs in earlier days, it is requested that some minimal programming techniques / topics to be sent to the registered candidates at least 10 days in advance, so as to prepare one mentally for the course. Secondly, if some guest lectures from the presently serving Judicial Magistrates , senior IAS / IPS Officers to be included , at least one per 15 days, because a serving Officer will be able to relate the on ground situations/practical approach vis- a - vis political / government influences/interferences in policing and justice systems more appropriately, as compared to lectures on 'could haves' and 'would haves' by ex- officio or veterans, who themselves may not had been able to make a mark of their ideologies during their service.
- I am obliged and thankful for an opportunity and getting mentor like Prof. Arvind Verma ,may God bless him with long life and energies to do more. He not only true Guru on subject ,but has stood by my side and helped me in timely in personal crisis.